

CLAIMS

1. A method of incorporating an electrical circuit interrupter into a housing, said method comprising the steps of:-

forming, on an exterior surface of a circuit interrupter at least one polymeric sleeve of predetermined shape;

inserting said circuit interrupter with attached said at least one sleeve into a locating cavity of pre-determined shape in a pre-moulded polymeric housing; and,

mechanically securing therewithin said circuit interrupter with attached said at least one sleeve.

2. A method as claimed in claim 1 wherein said at least one sleeve is moulded directly on to an exterior surface of said circuit interrupter.

3. A method as claimed in claim 1 wherein said at least one sleeve may be preformed and subsequently attached to an exterior surface of said circuit interrupter.

4. A method as claimed in claim 2 wherein said at least one sleeve is moulded by a casting process with a flowable curable polymeric composition.

5. A method as claimed in claim 4 wherein said at least one sleeve is comprised of an elastomeric material.

6. A method as claimed in claim 1 wherein said sleeve extends over at least part of the axial length of the exposed surface of said circuit interrupter.

7. A method as claimed in claim 1 wherein said at least one sleeve extends over one or more circumferential regions between opposed ends of the surface of said circuit interrupter.

8. A method as claimed in claim 1 wherein said circuit interrupter is mechanically secured within said cavity by frictional engagement between said at least one sleeve and an inner wall surface of said cavity.

9. A method as claimed in claim 1 wherein said circuit interrupter is mechanically secured in said cavity by axial tension applied by a screw threaded fastener extending via an aperture in a base of said cavity to a

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screw threaded terminal of a fixed switch contact by said interrupter.

10. A method for removably locating an electrical circuit interrupter in an insulating housing, said method comprising the steps of:-

expanding at least one sleeve of flexible polymeric material;

5 positioning said at least one sleeve over a predetermined region of said interrupter;

allowing the sleeve to contract under tension about part or all of an outer wall of the interrupter;

10 inserting said interrupter with attached sleeve into a locating cavity of a predetermined shape in a pre-moulded rigid polymeric insulating housing; and,

removably mechanically securing in said cavity said interrupter with attached sleeve.

11. A method as claimed in claim 10 wherein said at least one sleeve
15 is allowed to contract about said interrupter under reduced atmospheric pressure.

12. A method as claimed in claim 10 wherein said at least one sleeve may be attached to an outer wall of said interrupter by an adhesive composition.

20 13. A method as claimed in claim 10 wherein said at least one sleeve and the locating cavity have complementary tapered engaging surfaces.

14. A method as claimed in claim 13 wherein the locating cavity tapers convergently from a proximal end adjacent a mouth of said cavity to a distal end spaced therefrom.

25 15. A method as claimed in claim 10 wherein said at least one sleeve comprises one or more circumferential rib-like projections.

30 16. A method as claimed in claim 10 wherein said interrupter with attached sleeve is removably secured in said cavity by axial tension applied by a screw threaded fastener extending via an aperture in the base of said cavity to a screw threaded terminal of a fixed switch contact of said interrupter.

17. A method as claimed in claim 16 wherein said at least one sleeve

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is subjected to radial compression between said interrupter and an inner wall or walls of said cavity when secured therein.

18. A method as claimed in claim 10 wherein the polymeric material comprises an elastomeric silicone polymer.

5 19. A method of assembly of an insulating housing for electrical equipment, said method comprising the steps of:-

securing over a spigot-like coupling member of an insulating housing element a layer of flexible polymeric material;

10 inserting into a socket-like coupling member of an insulating housing element said spigot-like coupling member; and,

securing together said spigot-like coupling member and said socket-like coupling member under axial tension to induce radial compression of said layer of flexible polymeric material.

15 20. A method as claimed in claim 19 wherein one or more cavities are formed in an outer surface of said spigot-like member and/or an inner surface of said socket-like member to accommodate, in use, differential thermal expansion between said coupling members and said layer of flexible polymeric material.

20 21. A method as claimed in claim 20 wherein said socket like member is heated before securing to said spigot-like coupling member whereby axial thermal contraction of said socket-like member occurs upon cooling.

22. A method of coupling housing elements of an insulating housing for electrical equipment, said method comprising the steps of:-

25 forming complementary frusto-conical surfaces on respective socket and spigot coupling members of housing elements to be coupled;

establishing a temperature differential between a housing element having a socket coupling member and a housing element having a spigot coupling member whereby said socket coupling member undergoes thermal expansion relative to said spigot coupling member; and,

30 coupling said socket and spigot coupling members and allowing the temperature differential therebetween to dissipate whereby frictional engagement is achieved between respective housing elements with said

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spigot coupling element under radial compression and said socket coupling under circumferential tension.

23. A method as claimed in claim 20 wherein said complementary frusto-conical surfaces are formed by machining.

5 24. A method as claimed in claim 20 wherein said complementary frusto-conical surfaces are formed by grinding.

25. A method as claimed in claim 20 wherein the complementary frusto-conical surfaces of respective socket and spigot members are lapped together using a lapping compound.

10 26. A method as claimed in claim 20 wherein the taper angle of the complementary frusto conical surfaces is from 0.5° to an angle less than the angle of friction for the respective surfaces.

15 27. A method as claimed in claim 20 wherein the temperature differential between the socket and spigot coupling elements is in the range of from 20°C to 100°C .

28. A method as claimed in claim 25 wherein the temperature differential is in the range of from 50°C to 80°C .

29. An electrical switching device incorporating a circuit interrupter according to the method of claim 1.

20 30. An electrical switching device removably incorporating a circuit interrupter according to the method of claim 10.

31. An insulating housing for an electrical switching device whenever assembled according to the method of claim 19.

25 32. An insulating housing for an electrical switching device whenever assembled according to the method of claim 20.

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